VOL. 627, NOS. 1+2 JOURNAL OF CHROMATOGRAPHY DECEMBER 25, 1992

# CONTENTS

*(Abstracts/Contents Lists published in Analytical Abstracts, Biochemical Abstracts, Biological Abstracts, Chemical Abstracts, Chemical Titles, Chromatography Abstracts, Current Awareness in Biological Sciences (CABS), Current Contents/Life Sciences, Current Contents/Physical, Chemical & Earth Sciences, Deep-Sea Research/Part B: Oceanographic Literature Review, Excerpta Medica, Index Medicus, Mass Spectrometry Bulletin, PASCAL-CNRS, Referativnyi Zhurnal, Research Alert and Science Citation Index)*

## REVIEW

O-(2,3,4,5,6-Pentafluorophenyl)methylhydroxylamine hydrochloride: a versatile reagent for the determination of carbonyl-containing compounds
by D. A. Cancilla (London, Canada) and S. S. Que Hee (Los Angeles, CA, USA) (Received August 10th, 1992) . . . 1

## REGULAR PAPERS

*Column Liquid Chromatography*

Retention model of multiple eluent ion chromatography. *A priori* estimations of analyte capacity factor and peak intensity
by A. Yamamoto (Toyama, Japan), K. Hayakawa (Kanazawa, Japan), A. Matsunaga and E. Mizukami (Toyama, Japan) and M. Miyazaki (Kanazawa, Japan) (Received August 19th, 1992) . . . 17

Rapid breakthrough measurement of void volume for field-flow fractionation channels
by J. C. Giddings, P. S. Williams and M. A. Benincasa (Salt Lake City, UT, USA) (Received August 5th, 1992) . . . 23

Correlation of the eluting strengths of solvents in adsorption chromatography with solvatochromic parameters
by D. C. Luehrs, D. J. Chesney and K. A. Godbole (Houghton, MI, USA) (Received August 25th, 1992) . . . 37

Determination of Stokes radii and molecular masses of sodium hyaluronates by Sepharose gel chromatography
by E. Shimada and G. Matsumura (Tokyo, Japan) (Received August 25th, 1992) . . . 43

"Paralogs", sorbent families for protein separations
by K. Benedek, A. Várkonyi, B. Hughes, K. Zabel and L. M. Kauvar (South San Francisco, CA, USA) (Received July 21st, 1992) . . . 51

Characterization of sugar oligomers by on-line high-performance anion-exchange chromatography–thermospray mass spectrometry
by R. A. M. van der Hoeven and W. M. A. Niessen (Leiden, Netherlands), H. A. Schols (Wageningen, Netherlands), C. Bruggink (Breda, Netherlands), A. G. J. Voragen (Wageningen, Netherlands) and J. van der Greef (Leiden, Netherlands) (Received August 19th, 1992) . . . 63

Resolution of carboxylic acid enantiomers by high-performance liquid chromatography with peroxyoxalate chemiluminescence detection
by T. Toyo'oka, M. Ishibashi and T. Terao (Tokyo, Japan) (Received August 17th, 1992) . . . 75

Determination of fatty acids in fish oil dietary supplements by capillary liquid chromatography with laser-induced fluorescence detection
by J. S. Yoo and V. L. McGuffin (East Lansing, MI, USA) (Received August 18th, 1992) . . . 87

Use of chiral monohalo-*s*-triazine reagents for the liquid chromatographic resolution of DL-amino acids
by H. Brückner and B. Strecker (Stuttgart, Germany) (Received August 27th, 1992) . . . 97

Characterization of the influence of displacing salts on retention in gradient elution ion-exchange chromatography of proteins and peptides
by G. Malmquist and N. Lundell (Uppsala, Sweden) (Received July 21st, 1992) . . . 107

Immobilized metal ion affinity chromatography of synthetic peptides. Binding via the α-amino group
by P. Hansen, G. Lindeberg and L. Andersson (Uppsala, Sweden) (Received July 3rd, 1992) . . . 125

Use of monobromobimane to resolve two recombinant proteins by reveersed-phase high-performance liquid chromatography based on their cysteine content
by D. O. O'Keefe (Rahway, NJ, USA) and A. L. Lee and S. Yamazaki (West Point, PA, USA) (Received July 2nd, 1992) 137

Heterogeneous binding of aldolase to phosphocellulose. Interpretation in terms of a "concerted cluster" model of multivalent affinity
by V. Dowd and R. J. Yon (London, UK) (Received September 8th, 1992) . . . 145

*(Continued overleaf)*

*Contents (continued)*

Purification, subunit structure and inhibitor profile of cathepsin A
by J. J. Miller, D. G. Changaris and R. S. Levy (Louisville, KY, USA) (Received August 10th, 1992) . . . . . 153

Purification and determination of the binding site of lactate dehydrogenase from chicken breast muscle on immobilized ferric ions
by G. Chaga, L. Andersson and J. Porath (Uppsala, Sweden) (Received August 31st, 1992) . . . . . 163

Thermospray, particle beam and electrospray liquid chromatography–mass spectrometry of azo dyes
by R. Straub, R. D. Voyksner and J. T. Keever (Research Triangle Park, NC, USA) (Received August 10th, 1992) . . 173

Lithium isotope effects in water–dimethyl sulphoxide mixed-solvent ion-exchange chromatography
by T. Oi, T. Imai and H. Kakihana (Tokyo, Japan) (Received September 1st, 1992) . . . . . 187

*Gas Chromatography*

Quantitative comparisons of reaction products using gas chromatography–mass spectrometry and dual-isotope techniques
by L. C. Thomas, J. A. Edwards and K. M. Fiehrer (Seattle, WA, USA) (Received August 21st, 1992) . . . . . 193

Programmed-temperature gas chromatography. Comparative study of retention temperatures on four unequally polar stationary phases
by J. A. García Domínguez and J. M. Santiuste (Madrid, Spain) (Received April 27th, 1992) . . . . . 203

Trapping efficiencies of capillary cold traps for $C_2$–$C_{10}$ hydrocarbons
by X.-L. Cao and C. N. Hewitt (Lancaster, UK) (Received August 4th, 1992) . . . . . 219

Gas chromatographic retention behaviour of alkylated phenanthrenes on a smectic liquid crystalline phase. Application to organic geochemistry
by H. Budzinski (Talence, France), M. Radke (Jülich, Germany), P. Garrigues (Talence, France), S. A. Wise (Gaithersburg, MD, USA), J. Bellocq (Talence, France) and H. Willsch (Jülich, Germany) (Received July 28th, 1992) . . . . 227

Identification of very-long-chain acids from peat and coals by capillary gas chromatography–mass spectrometry
by T. Řezanka (Prague, Czechoslovakia) (Received July 29th, 1992) . . . . . 241

*Supercritical Fluid Chromatography*

Supercritical fluid chromatography of *Fusarium* mycotoxins
by J. C. Young (Ottawa, Canada) and D. E. Games (Swansea, UK) (Received September 16th, 1992) . . . . . 247

Supercritical fluid extraction and gas chromatographic determination of the sesquiterpene lactone parthenolide in the medicinal herb feverfew (*Tanacetum parthenium*)
by R. M. Smith and M. D. Burford (Loughborough, UK) (Received August 11th, 1992) . . . . . 255

*Electrophoresis*

Capillary isotachophoretic analyte focusing for capillary electrophoresis with mass spectrometric detection using electrospray ionization
by N. J. Reinhoud, A. P. Tinke, U. R. Tjaden, W. M. A. Niessen and J. van der Greef (Leiden, Netherlands) (Received July 15th, 1992) . . . . . 263

Determination of propionate in bread using capillary zone electrophoresis
by M. T. Ackermans, J. C. J. M. Ackermans-Loonen and J. L. Beckers (Eindhoven, Netherlands) (Received July 20th, 1992) . . . . . 273

Separation of tetracycline and its degradation products by capillary zone electrophoresis
by C.-X. Zhang, Z.-P. Sun, D.-K. Ling and Y.-J. Zhang (Beijing, China) (Received June 16th, 1992) . . . . . 281

SHORT COMMUNICATIONS

*Column Liquid Chromatography*

Determination of oxytetracycline in marine shellfish (*Crassostrea gigas, Ruditapes philippinarum* and *Scrobicularia plana*) by high-performance liquid chromatography using solid-phase extraction
by H. Pouliquen, D. Keita and L. Pinault (Nantes, France) (Received September 29th, 1992) . . . . . 287

Hydrogen bonding. XXIII. Application of the new solvation equation to log $V_g$ values for solutes on carbonaceous adsorbents
by M. H. Abraham and D. P. Walsh (London, UK) (Received October 20th, 1992) . . . . . 294

Gas chromatographic method for simultaneous determination of acephate and methamidophos in bark, cone and seed samples of conifers
by K. M. S. Sundaram and R. Nott (Sault Ste. Marie, Canada) (Received September 21st, 1992) . . . . . 300

AUTHOR INDEX . . . . . 305